Complete Chiral Resolution Using Additive-Induced Crystal Size Bifurcation During Grinding

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Complete Chiral Resolution Using Additive Induced Crystal Size Bifurcation Under Near-Equilibrium Conditions

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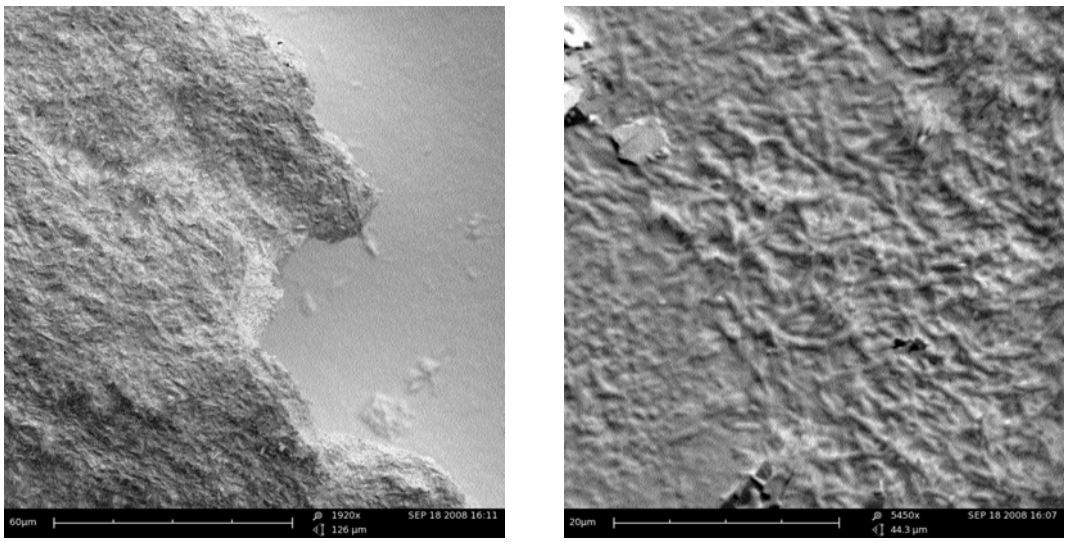
The continuous process of growth and ablation results in a steady-state for the crystal size distribution (CSD). In case an additive stereoselectively hampers the growth, the CSD shifts towards smaller sizes for that enantiomer. Therefore one might expect a distribution showing two separate maxima, one corresponding to the large crystals of the unhampered enantiomer and the other to the many small crystals of the hampered enantiomer.

We examined the ground residues using Scanning Electron Microscopy (SEM), optical microscopy and Focused Beam Reflectance Measurements (SI Figure1). These measurements, however, showed no convincing sign of two separated size distributions for the enantiomers, but rather a uniform distribution centered on a small crystal size.



SI Figure 1. SEM images of racemic **1** ground in the presence of the enantiopure additive **2.** The scale bars are 60 µm (left image) and 20 µm (right image).